REMARKS

The application has been carefully reviewed on the light of the Office Action dated November 29, 2004. Claims 1-9 are pending.

Claims 1-9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata (US 6,629,643) in view of Okano (JPO11-153666) and Furuya(US 6,164,538). This rejection is respectfully traversed.

Claims 1 and 8 recite, *inter alia,* "an ultrasonic wave sensor for detecting whether a card is present outside the card entrance when the card is discharged ...".

Nagata teaches a *magnetic* sensor for detecting if a magnetic head is illegally mounted outside the card reading apparatus. Nagata also employs a method for preventing illegal reading of a magnetic card by disrupting the motion of the magnetic card. Nagata does not provide a card reader having an ultrasonic wave sensor for detecting if a *card* (magnetic or non-magnetic) is present outside the card entrance. Nagata does not anticipate or render obvious the invention of claims 1 and 8.

Okano discloses an arrangement for preventing mutual interference between two neighboring ultrasonic sensors. Okano does not teach or suggest a card reader having "an ultrasonic wave sensor for detecting whether a card is present outside the card entrance when the card is discharged." Okano contains no disclosure related to how an ultrasonic sensor can be employed in a card reader to determine if a card has been properly discharged outside the card entrance or improperly captured. Okano provides no motivation to modify Nagata to include an ultrasonic wave sensor.

The Office Action again asserts that one of skill in the art would be motivated to combine Nagata and Okano "in order to determine whether a card is discharged in a proper manner" and to ensure "the safety of the reader from inappropriate objects from

entering the reader." As Applicants have noted in the response to the prior Office Action, there no evidence of an ability to determine if a card is discharged properly in either Nagata or Okano. Nagata and Okano contain no teaching or suggestion related to protecting the safety of the reader by distinguishing whether an object being inserted is "inappropriate."

MPEP § 706.02(j) requires that a 103 rejection is to be accompanied by: "(A) the relevant teachings of the prior art relied upon, . . . (B) the difference or differences in the claim over the applied reference(s), (C) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and (D) *an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.*" The Office Action argues that "it is not necessary that the references actually suggest, expressly or in so many words, changes or possible improvements in order to combine references together," but this argument ignores the standing requirement that "[t]he teaching or suggestion to combine to make the claims combination and the reasonable expectation of success *must both be found in the prior art and not based on applicant's disclosure.*" MPEP § 706.02(j) (emphasis added).

"The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done." Id. However, the Office Action makes no attempt at explaining why on of ordinary skill would have been motivated to alter a device relating to detection of a <u>stationary</u>, illegally <u>mounted</u> magnetic read head to instead "determine whether a card is discharged in a proper manner" and to ensure "the safety of the reader from inappropriate objects from entering the reader." There must be some explanation, in the references or elsewhere *in the prior art*, as to why this is an obvious modification.

The only teaching of Okano relied on by the Office action relates to the prevention of mutual interference between ultrasonic detectors, as might be used in a parking lot, for example, to prevent cars from damaging parking facilities. The Office Action's only explanation as to Okano's relevance is that "the difference between the prior art and the claimed invention is a matter of utilizing a different kind of sensor," asserting that "[s]ince Nagata already teaches one type of sensor, it would have been obvious to an artisan of ordinary skill in the art to modify the existing sensor with a different type of sensor." This statement does not demonstrate a "teaching or suggestion to combine to make the claimed combination" and does not indicate a "reasonable expectation of success." The Office Action is not permitted to use Applicants' disclosure as a roadmap; the Office Action has given no indication why these two entirely different references should be combined.

Without some explanation as to why this non-analogous reference is relevant to Nagata, and without further explanation as to the motivation for arrive at the claimed invention without relying on improper hindsight, there can be no *prima facie* case of obviousness.

Furuya does not cure the deficiencies of Nagata and Okano. Furuya has been cited as providing a circuit for data output. Furuya discloses a magnetic card reader capable of distinguishing between various types of cards using non-contacting magnetic sensors. Furuya does not teach or suggest a card reader having an ultrasonic wave sensor as recited in claims 1 and 8 of the present application. Claims 1 and 8 are patentable over the proposed combination of Nagata, Okano and Furuya. Claims 2 and 4 depend from claim 1 and are patentable for at least the same reasons.

Claim 5 recites "an ultrasonic wave sensor comprising a transmitter to transmit ultrasonic waves outside the card entrance and a receiver to receive reflected

waves of ultrasonic waves from a body when the body is present at the card entrance." It further recites "a memory for storing as a reference duration a necessary duration from transmission of ultrasonic waves to reception in the case where a card is present outside the card entrance."

Neither Nagata nor Okano teaches or suggests an ultrasonic wave sensor arrangement as recited in claim 5. The references also fail to suggest a necessary duration as a reference for determining if a card is properly discharged outside the card entrance. The Office Action's argument that Okano teaches a monitoring period does not address the issue. There is no mention in Nagata of even determining if a card is properly discharged outside the card entrance. Okano, as detailed above, is not analogous, and also does not disclose a card reader at all. Instead, Okano discloses emitting ultrasonic waves repeatedly from an ultrasonic wave transmission element towards a monitoring region and receiving reflection waves appearing in a specific monitoring period. There is no teaching of motivation, absent Applicants' disclosure, of a reference duration for determining proper discharge of a card outside the card entrance. Furuya, cited as disclosing a data output circuit, does not cure deficiencies in Nagata and Okano. Claim 5 is patentable over the proposed combination of Nagata, Okano and Furuya.

Claim 6 recites a card reader including, *inter alia*, "a sensor for detecting whether an object is present outside the card entrance." The sensor detects "whether a foreign body is present as said object at a time of standby for card processing and stores a reference value." The sensor also detects "whether the card is present as said object when the card conveyance mechanism discharges the card by comparing a discharge value to said reference value."

The deficiencies of Nagata, Okano and Furuya have been discussed above. None of the cited references to Nagata, Okano and Furuya, taken alone or together, provide any teaching or suggestion of a card reader having a sensor that detects an object at a time of card processing standby, stores a reference value, and detects whether the card is present upon discharge "by comparing a discharge value to said reference value." Claim 6 is patentable over the cited references to Nagata, Okano, and Furuya.

Claim 9 recites a card reader including, *inter alia*, "an ultrasonic wave sensor for detecting whether [a] card is present outside [a] card entrance when the card is discharged by [a] card conveyance mechanism, said ultrasonic wave sensor comprises a transmitter for transmitting an ultrasonic signal, a receiver for receiving a reflection signal of said ultrasonic signal, a reference duration memory and an ultrasonic wave sensor signal processing circuit which uses said reflection signal and information in said memory to determine if said card is outside said card entrance."

The deficiencies of Nagata, Okano and Furuya have been discussed above. None of the cited references to Nagata, Okano and Furuya, taken alone or together, provide any teaching or suggestion of the above limitations. Claim 9 is patentable over the cited references to Nagata, Okano, and Furuya.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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